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FIG. 1A-1 FIG. 1A-2

FIG. 1A

39 (UPPER: SEQ ID NO.: 1) 19 (LOWER: SEQ ID NO.: 4) 1/20 119 39 179 59 239 299 99 CTATGTÅGGCAATTAAAAACCTATTGATGTATAAAACAGTTTGCATTCATGGAGGGCAAC GAATT¢CCCCAACAGAGCCAAGCTCTCCATCTAGTGGACAGGGAAGCTAGCAGCAAACC TTCCCTTCACTACAAAACTTCATTGCTTGGCCAAAAAGAGAGTTAATTCAATGTAGACAT TAAATAQATTCTAGGACTTTATAAAAGATCACTTTTTTATTTATGCACAGGGTGGAACAAG ATGGATTATCAAGTGTCAAGTCCAATCTATGACATCAATTATTATACATCGGAGCCCTGC ഗ Z A Ω S S 0

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FIG. 1A-1

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CAAAAATCAATGTGAAGC Q K I N V K TTCATCTTTGGTTTTGTGG F U CTGAAGAGCATGACTGACA L K S M T D CTTACTGTCCCCTTCTGGG L T V P F W TGTCAACTCTTGACAGGC C Q L L T G C Q L T T T C C C C C C C C C C C C C C C C	A O	GCAACATGC G N M	TCTACCTGCT I Y L L	CTCACTATGC A H Y A	TCTATTTATI L Y F I	ACCTGGCTGTC( Y L A V	TGACAAGTGTGA V T S V	CCAGATCTCAAA T R S Q	
CARAPARTCARIGGAAGCAAATCGCAGCCTCCTGCTCTACTCACTGGTG  Q K I N V K Q I A A R L L P L Y S L V  TTCATCTTTGGTTTTGTGGGCAACATGGTGGTCATCCTCTACTCGATAAACGG F I F G F V G N M L V I L I L I N C K R  CTGAAGAGCATGACTGACTGGTCACTGGTCATCTCTGATAAACTGCAAAGG F I N L L I L N L A I S D L F F L  CTTACTGTCCCTTTTGGGCTCACTATGCTGCCCCAGTGGGAATTTTCCTT  L Y P F W A H Y A A A Q W D F G N T M  TGTCAACTCTTGAAGGGTCTATTTTATAGGCTTCTTCTTGGAAATACAATG  C L L T G L Y F I G F F S G I F F I I  CTCCTGAACTCTTGGGGTGCTGTTTTTATAGGCTTCTTTTTTTATAGGCTTCTTTTTTATAGGCTTCTTTTTTTT	AATCGCAGCCGGCTCCTG	TGGTCATCCTC L V I L	CAACCTGGCC N L A	TGCCGCCCAG A A Q	AGGCTTCTTC G F F	TCCATGCT V H A	TCACTTGG	aagaaggt K E g	•
ATCAATGTGAAGCAAATCGCAGCCCGCCT(  I N V K Q I A A R L  TTTGGTTTTGTGGCCAACATGCTGGTCAT( F G F V G N M L V I  SAGCATGACTGACATCTACTGCTCAACCT( V P F W A H Y A A A A  CTCTTGACAGGCTCTATTTTATAGGCTTC  L L T G L Y F I G F  ACAATCGATAGGTACCTGGCTCGTCCAT  T I D R Y L A V H  ACCTTTGGGGTGGTGCTGTTCCAT  T F G V V T S V I T  GGAATCATCTTTACCAGATCTCAAAAGAA  G I I F T R S Q K E  'CCATACA	AATCGCAGCCCGCCT( I A A R L	TGGTCAT( L V I	CAACCTC N L	TGCCGCC A A	AGGCTTC G F	STCCA1 V H	TCACT I I	AAGA! K E	
IN V K Q I A A R  TITTGGTTTTGTGGGCAACATGCTGGT  F G F V G N M L V  AGCATGACTGACATCTTCTAGCTCAA  S M T D I Y L L N  CTCCCTTCTGGGCTCACTATGCTGC  V P F W A H Y A A A  CTCTTGACAGGCTCTATTTTATAGG  L L T G L Y F I G  L L T G L Y F I G  ACATCGATAGGTACCTGGCTGTGT  T I D R Y L A V V  ACCTTTGGGGTGGTGACAGTGTGAT  T I D R Y L A V V  ACCTTTGGGGTGGTGACAGTGTGAT  T F G V V T S V I  GGAATCATCTTTACCAGATCTCAAAA  GGAATCATCTTTACCAGATCTCAAAA  GGAATCATCTTTACCAGATCTCAAAA  GGAATCATCTTTACCAGATCTCAAAA  GGAATCATCTTTACCAGATCTCAAAA  GGAATCATACA	AATCGCAGCCCG	TGGT	CAA	TGC(	AGG G	Ę5 >	ĚН	A M	
IN V K Q I A A LITTEGETTTTGGGAACATGCT B A LITTGGTTTTGGGCAACATGCT B A LITTGGTTTTGGGCTCACTGCT B A LITTGTTTTTGGGCTCACTATGCT B A LITTGTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT	AATCGCAGC I A A	ĦH			-	Ŭ.	₽5	AA	
ATCAATGTGAAGCAAATCGC I N V K Q I P TTTGGTTTTGTGGGCAACAT F G F V G N N AGCATGACTGACTCTACCT S M T D I Y I S M T D I Y I T D F W A H Y CTCCTTGACAGGCTCTATTT L L T G L Y F ACATCGATAGGTACCTGGC T I D R Y L A T I D R Y L A T I D R Y L A T I D R Y L A T I D R Y L A T GAATCATCTTTACCAGATC T F G V V T S GGAATCATCTTTTACCAGATC G I I F T R CCATACA	AATCGC	ည် ၂	GCT L	TGC	TAT	TGT.	TGT	TCA	
ATCAATGTGAAGCAAAI  I N V K Q ]  TTTGGTTTTGTGGGCAZ  F G F V G N  AGCATGACTGACATCTZ  S M T D I N  CTCCTTCGGGCTCTZ  L L T G L N  T I D R Y I  T I D R Y I  T I D R Y I  T G V V N  GGAATCATCTTTACCAG  GGAATCATCTTTACCAG  GGAATCATCTTTACCAG  GGAATCATCTTTACCAG  GGAATCATCTTTACCAG  GGAATCATCTTTACCAG  GGAATCATCTTTACCAG  GGAATCATCTTTACCAG  GGAATCATCTTTACCAG  GGAATCATCATCACAG	AA	ACAI N M	ACCI	CTA	TTT\ F	099J	PAAG	SATC	
IN V K  TTTGGTTTTGTGG  AGCATGACTGACA  AGCATGACTGACA  S M T D  CTCCTTTGGGGC  L L T G  T L D R  T L D R  T L D R  T L D R  T C CTTTGGGGTGG  T C G  T C G  T C C CTTTGGGGTGG  T C C CTTTGGGGTGG  T C C C CTTTGGGGTGG  T C C C C C C C C C C C C C C C C C C	ACO!	SCA1	ICT!	CTC!		ACC:	rGAC V	CCAC	
IN V  TTTGGTTTTG  F G F  AGCATGACTG  S M T  STCCCCTTCT  V P F  CTCTTGACAG  L L T  L L T  L L T  ACAATCATCT  GGAATCATCT  GGAATCATCT  GGAATCATCT  GGAATCATCT	AGC.	TGG V	ACA D	ດີດ ໂລ	ມູນ	GGT. R	TGG V	TTA. F	
IN I	STGA V	rttg F	ACTG T	rici F	ACAG T	SATA D	ეეეე ე	ATCT I	
LATCI TTTT PECTO CTCI LCL TT TT TGGAA	AATC N	3GT.	ATG! M	ည်	rtg? L	ATCC I	l'T'G F	ATCA	SE
	ATC. I	TTT( F	AGC! S	GTC( V	CTC	acai T	ACC. T	GGAI	CCAT

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FIG.

FIG. 1B

59 (UPPER: SEQ ID NO.: 2) 19 (LOWER: SEQ ID NO.: 5) GAATTCCCCCAACAGAGCCAAGCTCTCCATCTAGTGGACAGGGAAGCTAGCAAACC

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119

TTCCCTTCACTACAAACTTCATTGCTTGGCCAAAAAGAGAGTTAATTCAATGTAGACAT

39 179 239 299 99 CTATGTAGGCAATTAAAAACCTATTGATGTATAAAACAGTTTGCATTCATGGAGGGCAAC TAAATA¢ATTCTAGGACTTTATAAAAGATCACTTTTTTATTGCACAGGGTGGAACAAG **ATGGATTATCAAGTCCAAGTCCAATCTATGACATCAATTATTACATCGGAGCCCTGC** Ω D4

## FIG. 1B-1

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359 119	<b>4</b> 19 139	479 159	539 179	599 199	<b>659</b> 219	719 239	779 259	839
STG V	<b>1</b> 66	디걸	M M	I	R R	ည် လ	ភ្ជាំខ	TI T
11G	AAA K	TTC(	T.	MC	A P	SCG A	S S	TC.
S S S	ည်ပ	riti F	AATZ N	ricz F	AAAQ K	riti(	ည်ပ	TAG
rac:	AAC N	7. 1.	3GA/ G	ri Fi	rta. L	3TG1 V	D T	AAGA
CHO	atai I	3AC(	rti F	ATC	3CT	3CTC	rac x	LTA?
ည်႕	្រ ក	TCT	GAC	GGA	TTT( F	GTG(	CAT	ACA:
CCT P	ATC	ATC	TGG W	TCI	GTG	GTG V	CII	CAG
i L	OTO 1	19CC	CAG	TIC	GCT	TGG W	GGT	TTC
Š P	ATC I	CTG	19CC	TTC	CAT	ACT T	GAA	AAT
ဂ္ဂ်	SGT(	SAAC N	19 P	) (0 (0	GTC V	ATC I	AAA	AAG K
<b>A</b> GC(	3CTC L	ici L	ට්ට් 🗸	rat? I	IGTC V	rgre V	GA O	TT OD 3
7357 P V	CATC M	i L	Y	riti) F	3GC A	AAGT S	ATCT S	TT
AAT( I	CAA( N	ZTA(	ICA( H	TTAT	CICI	SAC.	PAGA R	g c
SCA.	ည် ဗ	CAT	3GC A	3CT L	FTA(	3GTC V	FACC T	TAI
GAA( K	TGT( V	IGA D	CTG W	<b>A</b> GG(	rag( R	3GTC V	CHT	G. O
TGT	TTT F	GAÇ T	CIT	GAC	CGA	1GG G	CAT	CAG. S
CAA	TGG ភ	CAT M	CCC P	CIT	AAT( I	CIT	AAT( I	ATA(
AAT	CIT	GAG	TGT	ACT	GAC	CAC	AGG Q	TCC P
CAAAAATCAATGTGAAGCAAATCGCCGCCCCCCCCCCCC	TTCATCTTTGGTTTTTGTGGGCAACATGCTGGTCATCCTCATCCTGATAAACTGCAAAAGG	CTGAAGAGCATGACATCTACCTGCTCAACCTGGCCATCTCTGACCTGTTTTTCCTT L K S M T D I Y L L N L A I S D L F F L	CTTACTGCCCTTCTGGGCTCACTATGCTGCCGCCCAGTGGGACTTTGGAAATACAATG L T V P F W A H Y A A A Q W D F G N T M	TGTCAACTCTTGACAGGGCTCTTTTTATAGGCTTCTTCTCTGGAATCTTCTTCATCATC COLLTGLYFIGFFSGIFFII	CTCCTGACAATCGATAGGTACCTGCTGTCCTGTGTTTGCTTTAAAAGCCAGG	ACGGTCACCTTTGGGGTGGTGACAAGTGTGATCACTTGGGTGGTGGCTGTGTTTGCGTCT T V T F G V V T S V I T W V V A V F A S	CICCCAGGAATCATTTACCAGAICTCAAAAAGAAGGTCTTCATTACACCTGCAGCTCT L P G I I F T R S Q K E G L H Y T C S S	CATTITCCATACAGTATCAATTCTGGAAGAATTTCCAGACATTAAAGATAGTCATC H F P Y S O Y O F W K N F O T L K I V I
g Cr	H	g n	유니	ည်းပ	P.J	AC	P. J	S H

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TGG	<u>က် က</u>	CTG 1	GTC	i L	ညည္က	3CH	SCT	IGT( V	CAT(	3GT(	CAT(	OTG O	CTA(	CTC S	995 9	AAT(	TGGGGCTGGTCCTGCCTGCTTGTCATGGTCATCTGCTACTCGGGAATCCTAAAAACT	AAA. K	AAC	E	899 299
TGC	<u> </u>	ධ්ය	ည်ပ	rcg, R	AAA7 N	GA E	SAA( K	3AA( K	3AG( R	3CA H	CAG(	3GC:	IGT V	3AG( R	SCT.	rat( I	TGCTTCGGTGTCGAAATGAGAAGAAGAGGCACAGGGCTGTGAGGCTTATCTTCACCATC	CAC T	CAT	U	959 319
M	LH.	GIT V	Y	ltt. F	IČĮ L	CITY	CTĞ ¥	3 <u>6</u> C	T T T	CTA( Y	CAA N	CAT	IGT V	CCT	TĈŢ	CT 1	ATGATTGTTTATTTTCTCTTCGGCTCCCTACAACATTGTCCTTCTCCTGAACACCTTC  M I V Y F L F W A P Y N I V L L L N T F	CAC	CIT	U	1019
A SG	E E	TIC	FI	ට්රි බ	C. I	SAA' N	TAA	H G O	CAG' S	TAG( S	CTC	ľaa( N	CAG R	GTT	999 D	SCA	LAGGAATTCTTTGGCCTGAATAATTGCAGTAGCTCTAACAGGTTGGACCAAGCTATGCAG	TAT M	ପ୍ରଧ	ტ	1079 359
TGA V	Q H	GAG	AC: T	ICT L	ට්ශීර බ	BAT W	GAC	SCA	CTG C	CTG C	CAT	CAA( N	CC P	CAT	CAT	CTA'	FIGACAGAGACTCTTGGGATGACGCACTGCTGCATCATCTATGCCTTTGTC		TGT V	U.	1139
) 5 5 5 5	A H	AAG K	III( F	CAG! R	AAA( N	CTA	CCT	CHI	AGT	CIT F	CIT	SC O	AAA( K	ACE H	CAT	TGC A	GGGAGAAGTTCAGAAACTACCTCTTAGTCTTCCAAAAGCACATTGCCAAACGCTTC	ACG R	CIT	บ	1199 399
ည်ပ	XX	ည်ပ	ည်ပ	្រីស	rati I	rri F	CCA	SCA	AGA( E	36C	ICC P	CGA E	3CG.	AGC	AAG S	CHC ន	GCAAATGCTGTTCTATTTTCCAGCAAGAGGCTCCCGAGCGAG	ATI Y	CAC	U_	1259 419
GAI	ပ္ပဲ့လ	ACT	ပ္ပ် ပ	SGA E	SC O	GA.	AAT) I	ATC	IGI( V	3 9 9	CITIC	31G *	ACA (	CGG	ACT	CAA	GATCCACTGGGGAGCAGGAATATCTGTGGGCTTGTGACACGGACTCAAGTGGGCTGGT R S T G E Q E I S V G L *	360	1GG	H	1319 439
ACC.	<u> 5</u> –	GTC	AG7	<b>AGTJ</b>	ित	SCA.	CATK	295	ITA	TIE	ric	ATA(	CAC	AGC	CTĞ	3g	*ACCCAGTCAGAGTTGTGCACATGGCTTAGTTTTCATACACAGCCTGGGCTGGGGGTNGG	366	TNG	<b>U</b>	1379 459
TGG	Ž.	GAG	GIC			[aaj	AAG(	3AA(	STTS	ACT	STTS	ATA(	3 <b>A</b> G(	3GT(	E S	AGA'	TGGNNGAGGTCTTTTTAAAAGGAAGTTACTGTTATAGAGGGTCTAAGATTCATCCATT	ATC	CAT	E	1439 479
ATT	Ü	7		L L'U	TTAZ	700	TATTICG CATCHGITTA A AGTA GA TTA GA TOCGA ATTO	TT	אָטאָע אַטאָ	נינים	Z V Z	C L									

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FIG

## FIG. 1D

59 (UPPER: SEQ ID NO. 3) 19 (LOWER: SEQ ID NO. 6) 119 39 179 53 239 299 99 GAATTICCCCCAACAGAGCCAAGCTCTCCATCTAGTGGACAGGGAAGCTAGCAGCAAACC TTCCCTICACTACAAAACTTCATTGCTTGGCCAAAAAGAGAGTTAATTCAATGTAGACAT CTATGTAGGCAATTAAAAACCTATTGATGTATAAAACAGTTTGCATTCATGGAGGGCAAC ATGGATTATCAAGTGTCAAGTCCAATCTATGACATCAATTATTATACATCGGAGCCCTGC Д 田 Ω S

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## FIG. 1D-1

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359 119	<b>419 139</b>	479 159	<b>539 179</b>	599 199	<b>659</b> 219	719	779 259	839
CAAAAAATCAAATGGGAAATCGCAGCCCGCCTCCTGCCTCTACTCACTGGTG 359 Q K I N V K Q I A A R L L P P L Y S L V 119	TICATCITIGGITITIGIGGGCAACAIGCIGGTCAICCICAICCIGATAAACTGCAAAAGG 419 F I F G F V G N M L V I L I L I N C K R 139	CTGAAGAGCATGACTGACTTGCTCAACCTGGCCATCTCTGACCTGTTTTTCCTT 479	CTTACTGTCCCCTTCTGGGCTCACTATGCTGCCCCCAGTGGGACTTTGGAAATACAATG 539	TGTCAACTCTTGACAGGGCTCTATTTTATAGGCTTCTTCTTCTGGAATCTTCTTCATCATC C Q L L T G L Y F I G F F S G I F F I I 199	CTCCTGACAATCGATAGGTACCTGGCTGTCTGTGTTTGCTTTAAAAGCCAGG 659 L L T I D R Y L A V V H A V F A L K A R 219	ACGGTCACCTTTGGGGTGGTGACAAGTGTGATCACTTGGGTGGTGGCTGTTTTGCGTCT 719 T V T F G V V T S V I T W V V A V F A S 239	CTCCCAGGAATCATCTTTACCAGATCTCAAAAAGAAGGTCTTCATTACACCTGCAGCTCT 779 L P G I I F T R S Q K E G L H Y T C S S 259	CATTITICCATACATTAAAGATAGTCATCTTGGGGCTGGTCCTGCCGCTGCTTGTCATGGT 839 H F P Y I K D S H L G A G P A A A C H G 279
AAAAATCA 2   K I 1	ICATCITTG(	IGAAGAGCA: L K S I	TTACTGTCC	STCAACTCT	rccrgacaa:	CGTCACCT:	rcccaggaa:	ATTITCCATA
2	E"	១ ។	ឡ _	E C	១ ។	. ¥ L	$\Sigma_{-}$	: 5 <sup>m</sup>

1379 1439 459

479

GAATTO

1019 899 299 959 319 1139 1199 1079 359 399 CTCTAACAGGTTGGACCAAGCTATGCAGGTGACAGAGACTCTTGGGATGACGCACTGCTG CTTCCAAAAGCACATTGCCAAACGCTTCTGCAAATGCTGTTCTATTTTCCAGCAAGAGGC TCCCGAGCGAGCAAGCTCAGTTTACACCCGATCCACTGGGGAGCAGGAAATATCTGTGGG CATCHGCTACTCGGGAATCCTAAAAACTCTGCTTCGGTGTCGAAATGAGAAGAAGAGGCA CAGGGCTGTGAGGCTTATCTTCACCATCATGATTGTTTATTTTTCTCTTCTGGGCTCCCTA CAACATTGTCCTTCTCCTGAACACCTTCCAGGAATTCTTTGGCCTGAATAATTGCAGTAG TTCATACACAGCCTGGGCTGGGTTGGNNGAGGTCTTTTTAAAAGGAAGTTACT GTTATAGAGGGTCTAAGATTCATCCATTTATTTGGCATCTGTTTAAAGTAGATTAGATCC CATCAACCCCATCATCTATGCCTTTGTCGGGAGAAGTTCAGAAACTACCTCTTAGTCTT CTTGTGACACGGACTCAAGTGGGCTGGTGACCCAGTCAGAGTTGTGCACATGGCTTAGTT > ഗ ഗ

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FIG. 2A

FIG. 2B

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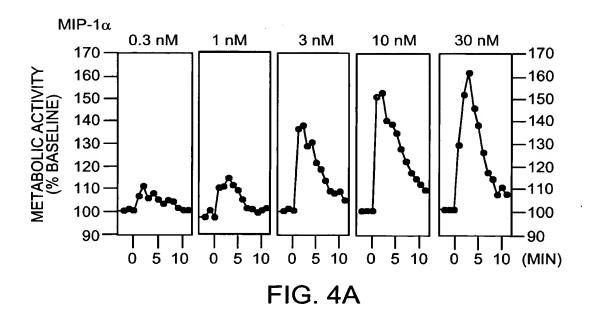
)YQF|WKNFQTLKI|V|ILGLVLPLLVMVICYSGILKTLLRCRNEKKRHRAVRLIFTIMIVYFLFW|A|PYNIVLLLNTFQEFFGLN**NC** IMRNILGLVLPLLIMVICYSGILKTLLRCRNEKKRHRAVRVIFTTIMIVYFLFWMPYNIVILLNTFQEFFGLSNC 352 360 355 355 I RHFFHRHLLMH.LGRYIPFLP ESTSQLDQATQVTETLGMTHCCINPIIYAFVGEKFRKYLSVFFRKHITTR. SSINRLDQAMQVTETLGMTHCCINPIIYAFVGEKFRINYLLVFFD EQSRHLD hcc-R2b hcc-R2b hcc-R3 hcc-R1 hcc-R4 hcc-R3 hcc-R1 hcc-R4 CCR5

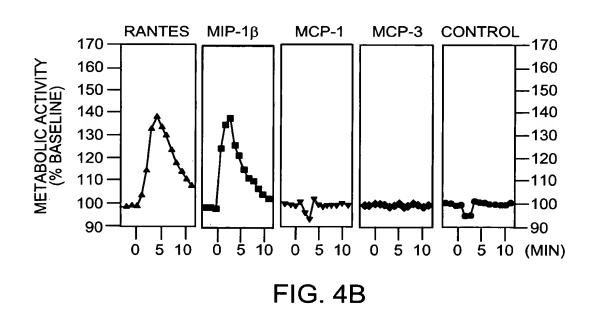
FIG. 2E

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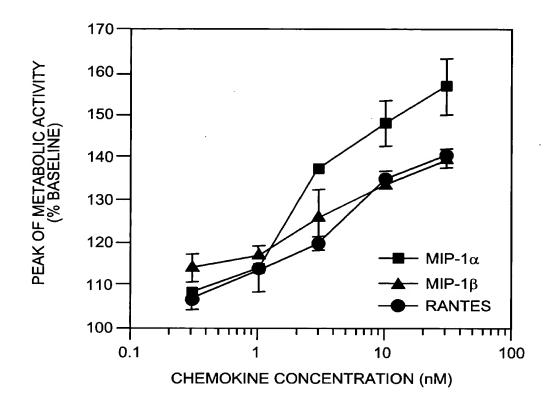


FIG. 4C

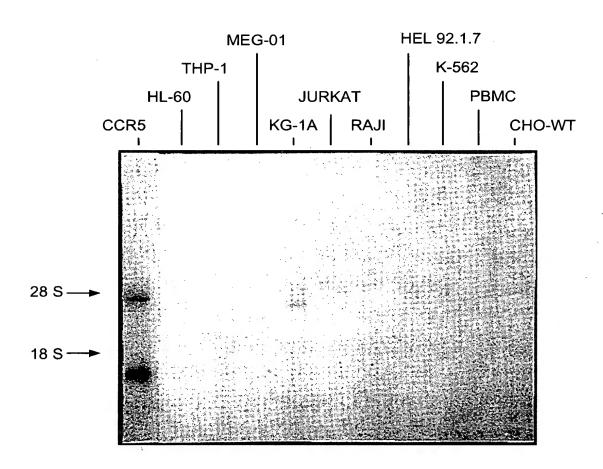
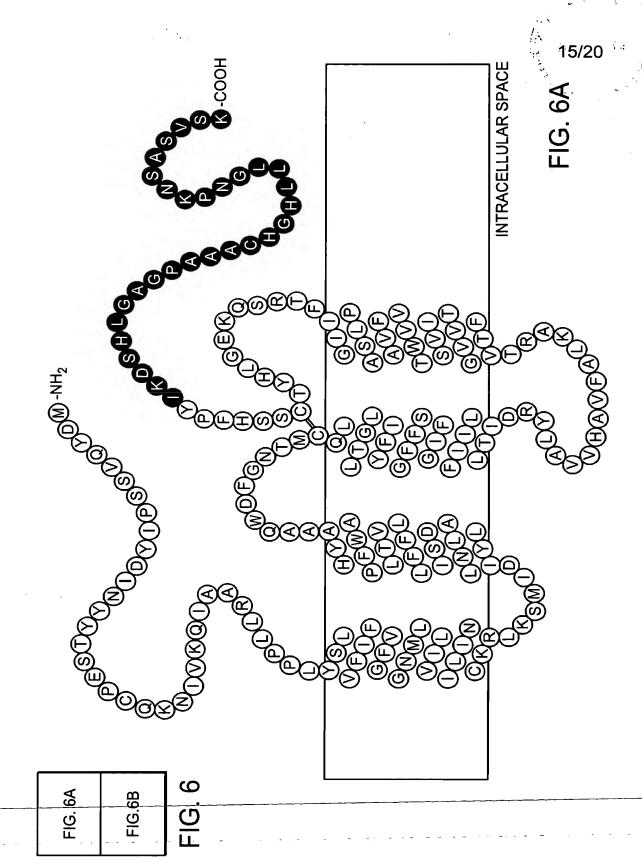
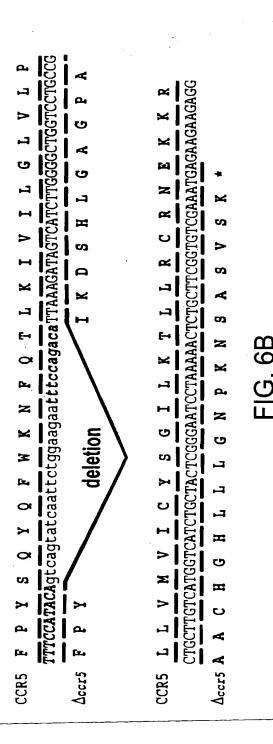
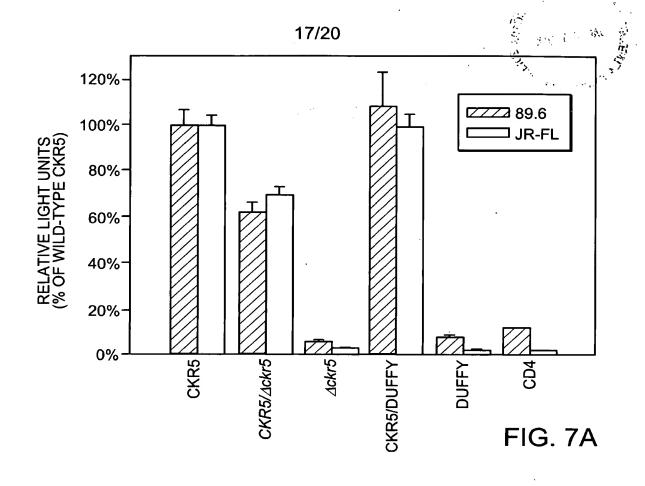


FIG. 5

COLETO: SOZBEGO







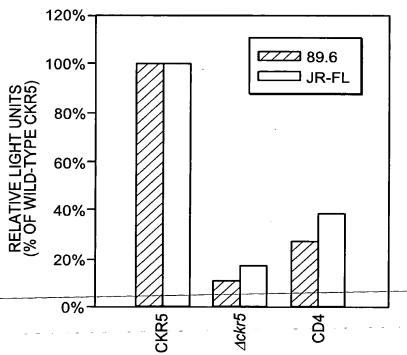


FIG. 7B

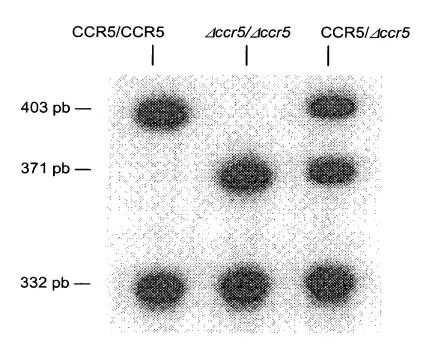
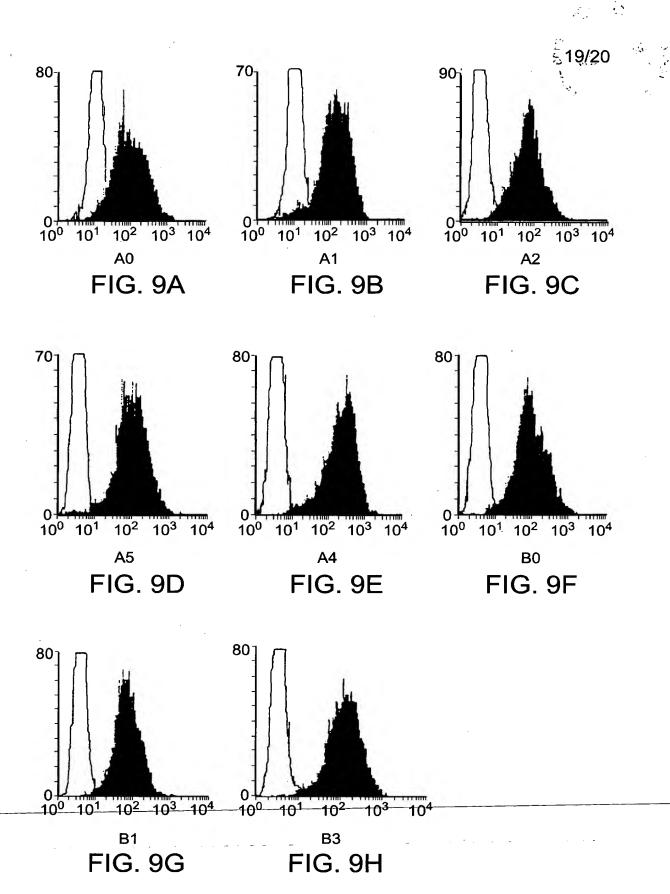


FIG. 8



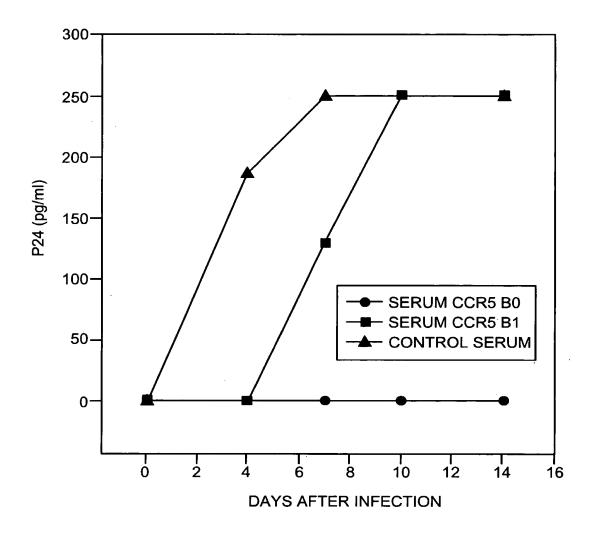


FIG. 10